

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

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Applicant's or agent's file reference GRA26 021 PC	FOR FURTHER ACTION		See Form PCT/IPEA/416
International application No. PCT/US04/31606	International filing date (day/month/year) 24 September 2004 (24.09.2004)	Priority date (day/month/year) 26 September 2003 (26.09.2003)	
International Patent Classification (IPC) or national classification and IPC IPC: H04B 7/14 (2006.01) USPC: 455/7			
Applicant ANDREW CORPORATION			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of ___ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input type="checkbox"/> Box No. VIII Certain observations on the international application</p>			
Date of submission of the demand 14 April 2005 (14.04.2005)		Date of completion of this report 30 September 2006 (30.09.2006)	
Name and mailing address of the IPEA/ US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Authorized officer Philip J. Sobutka <i>Ruggerio Zagan</i> Telephone No. 571-272-7887	

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/US04/31606

Box No. I Basis of the report

1. With regard to the language, this report is based on:

- ☒ the international application in the language in which it was filed.
- ☐ a translation of the international application into English, which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
- ☐ publication of the international application (under Rule 12.4(a))
- ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☒ the international application as originally filed/furnished
- ☒ the description:
pages 1-14 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- ☒ the claims:
pages 15-20 as originally filed/furnished
pages* NONE as amended (together with any statement) under Article 19
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- ☒ the drawings:
pages 1-6 as originally filed/furnished
pages* NONE received by this Authority on _____
pages* NONE received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/figs NONE
- ☒ the sequence listing (*specify*): NONE
- ☒ any table(s) related to the sequence listing (*specify*): NONE

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to the sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/US04/31606

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>9, 15-25, 32</u>	YES
	Claims <u>1-8, 10-14, 26-31, 33-44</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-44</u>	NO
Industrial Applicability (IA)	Claims <u>1-44</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and Explanations (Rule 70.7)
Please See Continuation Sheet

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

V. 2. Citations and Explanations:

Claims 1-8, 10-14, 26-31, 33-44 lack novelty under PCT Article 33(2) as being anticipated by Durrant et al (US 6,501,955).

Consider claim 1. Durrant teaches a method of determining if a signal is received directly or through a repeater comprising the steps of receiving the first signal at the first node (Durrant figs 1, 4, 5), extracting the primary communication signal and producing a signature as a function of the primary signal and the known modification, i.e. demodulating the signal using the modulating code used at the repeater (Durrant see especially col 10, lines 36 - col 11, line 15).

As to claims 2, 11, note that Durrant's is a wireless communication system (Durrant fig 1, col 4, lines 10-36).

As to claims 3, 12, 27, 34, 37, 39, 43, note that Durrant's location monitor would be considered a network analysis system (Durrant col 3, lines 25-36).

As to claims 4, 13, 28, 35, 38, 40, 44, note that Durrant's is a geolocation system (Durrant col 3, lines 25-36).

Supplemental Box

As to claims 5,14,29,33,36,41,42, note that the second node could be the mobile or base station (Durrant col 3, lines 1-36).

As to claims 6,7,30,31, note that Durrant's signal could be uplink or downlink (Durrant see col 3, lines 1-10).

As to claim 8, note that Durrant's modification is multiplication of a second signal (Durrant see fig 3, col 7, lines 35-65).

As to claims 10,26, note that Durrant's repeater receives a primary signal and creates a signature signal as a function of the primary signal and a second known signal, where the second signal identifies the repeater, and transmitting the modified signal (Durrant see fig 3, col 7, lines 35-65).

Claims 6,7,16,32 lack an inventive step under PCT Article 33(3) as being obvious over Durrant et al (US 6,501,955).

As to claim 6,7,16,32, note that the amplification would not change the inventive concept of Durrant's arrangement; therefore it would be obvious to one of ordinary skill in the art to modify Durrant to use the appropriate amplification, which may match the amplification required in the claim.

Claims 9,15,17-25 lack an inventive step under PCT Article 33(3) as being obvious over Durrant in view of Choi et al (US 2001/0053140).

Consider claims 9,15,17,18,21,22,23, Durrant teaches everything claimed as shown above including providing a signature by multiplying with a code. Durrant lacks a teaching of the code being a Hadamard sequence. Choi teaches providing a signature to a repeated signal using a Hadamard sequence (Choi see especially paragraphs 289-291). Therefore it would have been obvious to one of ordinary skill in the art to modify Durrant to use a Hadamard sequence as the code in order to use a robust coding scheme as taught by Choi. As to the Hadamard sequence being AM Golay, official notice is taken that AM Golay Hadamard sequences are well know in the art. It would have been obvious to one of ordinary skill in the art to further modify Durrant in view of Choi to use AM Golay as the Hadamard sequence in order to provide the appropriate coding for the arrangement.

As to claims 19,20,25,note that Durrant's arrangement could be used with synchronized or non-synchronized systems (Durrant col 5, lines 10-35, col 6, lines 35-65, col 10, lines 35-48).

As to claim 24, note that each repeater would have its own code (Durrant col 9, lines 36-45).

----- NEW CITATIONS -----